

Mixed Low-Level Waste

. . .at the Nevada Test Site

Background

The historic role the Nevada Test Site played during development and testing of nuclear weapons helped to protect the safety and security of the United States. Today, the U.S. Department of Energy's (DOE) Environmental Management Program is aggressively cleaning up remnants of these activities at the Nevada Test Site and other sites across the United States. One such remnant is mixed low-level waste which is generated by a broad spectrum of processes and activities, such as equipment maintenance, materials production, environmental restoration, and facility deactivation and decommissioning.

Mixed Low-Level Waste Composition

Mixed low-level waste is a "mix" of low-level radioactive materials and hazardous constituents. The low-level portion of mixed waste contains small amounts of radioactive material and can generally be handled without personal protective equipment. Mixed low-level waste is managed separately from low-level waste because of its hazardous component.

Hazardous wastes are materials that are toxic, corrosive, reactive, ignitable, or are specifically identified by the U.S. Environmental Protection Agency (EPA) as "hazardous." The EPA regulates generation, transportation, treatment, storage, and disposal of hazardous waste (often referred to as "cradle-to-grave" management) as set forth in the *Resource Conservation and Recovery Act (RCRA)*. In Nevada, the EPA delegated authority to the State of Nevada to ensure compliance with RCRA.



The yellow highlighted area is the mixed low-level waste disposal cell at the Nevada Test Site Area 5 Radioactive Waste Management Complex.

Disposal at the Nevada Test Site

The DOE National Nuclear Security Administration Nevada Site Office operates a Mixed Waste Disposal Unit under the Nevada Test Site RCRA permit reissued by the State of Nevada Division of Environmental Protection (NDEP) in December 2005. This permit limits mixed low-level waste disposal at the Nevada Test Site to 20,000 cubic meters or until December 2010, whichever comes first. Approximately six months prior to reaching the volume limit or five-year deadline, the Nevada Site Office must receive approval from the NDEP on the Mixed Waste Disposal Unit's closure plan.

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It is important to note that all mixed low-level waste disposed at the Nevada Test Site must comply with strict waste acceptance criteria which includes conformance to RCRA Land Disposal Restrictions. Compliance is ensured through an extensive document review and verification of a minimum of five percent of all mixed low-level waste disposed.



Information is provided on the x-ray technology (inside open vault) used to visually inspect mixed low-level waste at the Nevada Test Site

Storage of Mixed Low-Level Waste

In addition to disposal capabilities, a mixed low-level waste storage facility (for on-site generated waste only) is operated at the Nevada Test Site. Legacy and newly identified mixed low-level waste is managed at this facility prior to off-site treatment and/or disposal. The waste handled at this facility must be managed in accordance with strict treatment/disposal schedules established by the NDEP.

Summary

Mixed low-level waste will continue to be managed at the Nevada Test Site in support of environmental management and other activities. In addition, the Nevada Site Office will continue to work diligently towards accelerating closure of the Nevada Test Site Mixed Waste Disposal Unit while meeting its objective to provide a crucial disposal capability for other DOE sites throughout the United States engaged in accelerated cleanup. The priority of the Nevada Site Office is to conduct these and other activities while protecting the public, the workers, and the environment.

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to protect
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